STATE IMPLEMENTATION PLAN REVISION FOR FEDERAL NITROGEN DIOXIDE STANDARD INFRASTRUCTURE REQUIREMENTS

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California Environmental Protection Agency
Air Resources Board

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INTRODUCTION

The purpose of this report is to provide a revision to the infrastructure portion of California's State Implementation Plan (SIP). The revision is required under the federal Clean Air Act (CAA) and is limited to changes that specifically address the National Ambient Air Quality Standard for nitrogen dioxide (federal NO_2 standard or NO_2 standard). Furthermore, it is primarily focused on the new 1-hour NO_2 standard, although provisions could also impact the annual NO_2 standard. Because this Infrastructure SIP is specific to NO_2, it contains no changes for any other air pollutant.

The following paragraphs provide background information on the federal NO_2 standard and requirements for the infrastructure portion of the SIP. The actual language of the SIP revision is provided in Appendix A: State Implementation Plan Revision for Federal Nitrogen Dioxide Standard Infrastructure Requirements.

OVERVIEW

On January 22, 2010, the United States Environmental Protection Agency (U.S. EPA) revised the federal NO_2 standard. U.S. EPA made no changes to the existing annual standard of 53 parts per billion (ppb) that was originally promulgated in 1971. However, U.S. EPA also adopted a new 1-hour standard of 100 ppb. The 1-hour standard is designed to protect against short-term NO_2 exposure, and compliance is measured as a three-year average of the 98^{th} percentile concentration.

When U.S. EPA revises an existing standard, or as in the case of the 1-hour NO_2 standard, promulgates a new standard, CAA Section 110(a)(1) requires each state to revise their SIP to show they have the authority and programs needed to implement, maintain, and enforce the standard, regardless of designation status. This documentation is submitted to U.S. EPA for approval and is generally referred to as an Infrastructure SIP. States must submit an Infrastructure SIP within three years after a federal standard is adopted or revised. California's NO_2 Infrastructure SIP is due to U.S. EPA by January 22, 2013.

California has already addressed most of the infrastructure requirements in a comprehensive Infrastructure SIP submitted in response to the CAA of 1970 and approved by U.S. EPA in 1979 (40 Code of Federal Regulations 52.220). The Air Resources Board (ARB or Board) has submitted amendments to the Infrastructure SIP to comply with revisions to the federal 8-hour ozone standard, the federal $PM_{2.5}$ standard, and the federal lead standard, but U.S. EPA has not yet acted fully on these revisions. The current proposed revision for the 2010 federal NO_2 standard continues to affirm the Board's commitment to comply with CAA requirements. In addition, the revision addresses new elements required by U.S. EPA's 2010 revision of the federal NO_2 standard, including new NO_2 ambient monitoring requirements.

The specific elements that must be included in the NO_2 Infrastructure SIP are listed in CAA Section 110(a)(2). Table 1 lists the page number in Appendix A where each element is addressed. As mentioned earlier, the NO_2 Infrastructure SIP will become part of the overall statewide SIP, upon approval by U.S. EPA.

TABLE 1
Required Infrastructure SIP Elements*

Infrastructure SIP Element	*Clean Air Act Requirement*	*Element Description*
Ambient Air Quality Monitoring/Data System	§110(a)(2)(B)	Page A-1
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Consultation/Participation by Affected Local Entities	§110(a)(2)(M)	Page A-14

* *Note that states are not required to address elements §110(a)(2)(A) and §110(a)(2)(I) in the Infrastructure SIP because these elements are specific to nonattainment areas. As U.S. EPA interprets the Clean Air Act, SIPs incorporating any necessary local nonattainment area controls are not due within three years of promulgation of the federal standard, but rather are due at the same time as the nonattainment area planning requirements (75 FR 6474).*

In addition to the infrastructure requirements, U.S. EPA designates areas as attainment, nonattainment, or unclassifiable to facilitate subsequent planning efforts to attain the federal standards. When a new standard is adopted or an existing standard is revised, states have one year to submit area designation recommendations. ARB submitted area designation recommendations for the revised federal NO_2 standard on January 24, 2011. Copies of the submittal package and final area designations are available on U.S. EPA's website at: http://www.epa.gov/airquality/nitrogenoxides/designations/region/region9.html. Based on data collected during 2008 through 2010, all California monitors show compliance with both the new 1-hour standard and the annual standard. Thus, U.S. EPA designated all areas of the State as unclassifiable/attainment for the federal NO_2 standard.

APPENDIX A

STATE IMPLEMENTATION PLAN REVISION FOR FEDERAL NITROGEN DIOXIDE STANDARD INFRASTRUCTURE REQUIREMENTS

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APPENDIX A
State Implementation Plan Revision
for Federal Nitrogen Dioxide Standard Infrastructure Requirements

Ambient Air Quality Monitoring/Data System [§110(a)(2)(B)]

This section requires states to monitor, compile, and analyze ambient nitrogen dioxide (NO_2) concentrations and provide the data to the United States Environmental Protection Agency (U.S. EPA).

NO_2 monitoring requirements include population-oriented monitoring and near-roadway monitoring in urban areas with a population of 500,000 or more. California's existing NO_2 monitoring network is sufficient to satisfy the population-oriented requirements. Air Resources Board (ARB) staff are working with local air pollution control and air quality management districts (districts) and U.S. EPA to identify the best locations for up to 15 new near-roadway monitors. The NO_2 final rule specifies that these monitors be deployed in 2013. However, U.S. EPA has issued a proposed rule (October 5, 2012) to revise the deadline and deploy the near-road monitors in phases between 2014 and 2017. ARB and the districts will work closely with U.S. EPA to address the implementation of the new near-roadway monitors through the network planning process.

Discussion

ARB, districts, private contractors, and other government entities (for example, the National Parks Service) maintain a statewide network of monitoring sites. Instruments at these sites collect data for a variety of air pollutants, as well as a number of meteorological parameters. Current information about California's overall air quality monitoring program, as well as information about individual monitoring sites, is available on ARB's website at http://www.arb.ca.gov/aqd/aqmoninca.htm. Data collected at the individual monitoring sites are compiled, analyzed, and reported to U.S. EPA's Air Quality System per the schedule set forth in federal monitoring regulations. These data are also available on ARB's website at http://www.arb.ca.gov/adam. In addition, ARB and districts submit annual air quality monitoring plans to U.S. EPA that describe how the State and districts comply with monitoring requirements, including proposed changes to the monitoring network.

Table A-1 provides a summary of the monitors required in California for the 2010 federal NO_2 standard, including both near-roadway and community-wide monitors. Although some NO_2 is directly emitted by combustion sources, most of it is formed in the atmosphere from oxides of nitrogen or NO_x emissions. U.S. EPA estimates that nationwide, mobile sources account for approximately 60 percent of NO_x emissions, and therefore, short-term near-roadway exposures can dominate personal NO_2 exposure. To address this traffic-related exposure, U.S. EPA established a new NO_2 near-roadway monitoring requirement for large urban areas. This requirement is consistent with U.S. EPA's recent focus on high, source-oriented, short-term exposures and is similar to the approach taken in revising monitoring requirements for the federal lead and sulfur dioxide standards. One near-roadway NO_2 monitor is required in each Core Based Statistical Areas (CBSA) with a population of 500,000 or more. Near-roadway monitors must be located within

50 meters (about 164 feet) of the roadway edge, where maximum concentrations are expected to occur. CBSAs with a population of 2,500,000 or more or CBSAs with a population of 500,000 or more and at least one road segment having an Annual Average Daily Traffic (AADT) count of 250,000 or more vehicles must have two near-roadway monitors.

In June 2012, U.S. EPA released a document titled, *Near-Road NO_2 Monitoring Technical Assistance Document* (http://www.epa.gov/ttnamti1/files/nearroad/NearRoadTAD.pdf), to help states and local air monitoring agencies implement the near-roadway monitoring requirements. Potential near-roadway sites will be evaluated using six factors: AADT, fleet mix, congestion patterns, roadway design, terrain, and meteorology. In addition to these factors, other considerations that may impact site selection include federal siting criteria (for example probe height and distance from obstructions), site logistics (for example, site access and safety), and population exposure. ARB and the districts are working with U.S. EPA to identify appropriate near-roadway site locations. The estimated number of near-roadway monitors shown below reflect information specified in U.S. EPA's 2010 final NO_2 rule.

TABLE A-1
Required California Monitors for the Federal NO_2 Standard

District	CBSA	Counties Included	Near-Road Monitor*	Community-Wide Monitor**
Bay Area AQMD	San Francisco-Oakland-Fremont	Alameda, Contra Costa, San Francisco, San Mateo, Marin	2	1
	San Jose-Sunnyvale-Santa Clara	Santa Clara	1	1
Sacramento Metropolitan AQMD	Sacramento-Arden Arcade-Roseville	Sacramento, Placer	2***	1
San Diego County AQMD	San Diego-Carlsbad-San Marcos	San Diego	2	1
San Joaquin Valley Unified APCD	Bakersfield	Kern	1	not required
	Fresno	Fresno	1	not required
	Modesto	Stanislaus	1	not required
	Stockton	San Joaquin	1	not required
South Coast AQMD	Los Angeles-Long Beach-Santa Ana	Los Angeles, Orange	2	1
	Riverside- San Bernardino -Ontario	Riverside, San Bernardino	2	1
Ventura County APCD	Oxnard-Thousand Oaks-Ventura	Ventura	1	not required

* *The estimated number of near-roadway monitors is based on conditions specified in the final NO_2 rule using 2008 Census Bureau data and data from the 2007 Highway Performance Monitoring System maintained by the U.S. Department of Transportation Federal Highway Administration. The number of required monitors may not reflect current conditions.*

** *The estimated number of community-wide monitors is based on 2008 data. A sufficient number of community-wide monitors already operate as part of the long-term statewide NO_2 monitoring network.*

*** *Based on 2010 data, the Sacramento area requires only one near-roadway monitor because the AADT for all road segments is now lower than the trigger level specified in the final NO_2 rule for a second near-roadway monitor.*

The near-road network is anticipated to provide an infrastructure capable of housing other ambient air monitoring equipment. U.S. EPA requires a subset of these sites to include carbon monoxide monitoring, phased in during 2015 through 2017. States are also encouraged to monitor for other pollutants at the near-roadway sites. Information from the near-roadway monitors will help broaden the understanding of air quality conditions and pollutant interactions, furthering the ability to evaluate air quality models, develop emissions control strategies, and support long-term scientific studies – including health studies about near-roadway exposures.

In addition to the near-roadway monitors, any CBSA with a population of 1,000,000 or more must also have one community-wide monitor (refer to Table A-1). As mentioned previously, California's existing statewide network of more than 80 community-wide NO_2 monitors has been operating for many years and far exceeds the minimum federal requirements. Data from these existing community-wide monitors show no violation of either the annual NO_2 standard of 53 parts per billion (ppb) or the new federal 1-hour NO_2 standard of 100 ppb and provided the basis for U.S. EPA's NO_2 unclassifiable/attainment area designations promulgated in January 2012. Finally, U.S. EPA Regional Administrators are working to identify a subset of at least 40 NO_2 monitors nationwide, to help protect communities that are susceptible and vulnerable to NO_2-related health effects. It is likely that seven of these 40 monitors will be located in California

Programs for Enforcement, PSD, and NSR [§110(a)(2)(C)]

> *This section requires states to enforce control measures associated with attaining and maintaining the federal NO_2 standard and to implement a permitting program to regulate the construction and modification of major stationary sources of NO_2. In addition, Prevention of Significant Deterioration (PSD) programs must also apply to stationary sources that emit Greenhouse Gases (GHG), in accordance with U.S. EPA's Tailoring Rule.*

ARB has a comprehensive enforcement program in place that covers stationary sources, as well as other sources of pollutants, statewide. At the local level, districts are responsible for stationary source permitting programs. Each district has developed its own program, resulting in a comprehensive set of applicable rules and regulations. Currently, five districts have SIP-approved PSD programs. Two districts operate programs with partial delegation, while PSD programs in the remaining districts are administered by U.S. EPA. A number of those districts that do not currently operate their own PSD program are in the process of obtaining PSD authority from U.S. EPA.

Discussion

ARB's enforcement program covers mobile sources, stationary sources, consumer products, and fuels. Details about the program are available on ARB's website at http://www.arb.ca.gov/enf/enf.htm. In addition to the statewide program, districts implement

rules incorporating California Health and Safety Code provisions that grant all district officers and employees the authority to adopt and enforce their own rules and regulations (California Health and Safety Code sections 40001, 40120, 40702, 40752, 40753, and 41510). ARB reviews and audits district enforcement programs as part of its oversight role and in accordance with California Health and Safety Code section 41500. ARB also reviews district rules at their draft, proposed, and adopted stages to ensure the rules meet all applicable State and federal requirements. ARB maintains an online publicly-accessible district rules database at http://www.arb.ca.gov/drdb/drdb.htm.

California Health and Safety Code section 40000 gives districts the responsibility of controlling air pollution from stationary sources. This includes responsibility for New Source Review (NSR) and PSD. Both NSR and PSD address the construction or modification of stationary sources so they do not cause or contribute to a violation of federal standards. NSR applies in nonattainment areas, whereas PSD applies in areas designated as unclassifiable or attainment. As noted previously, all areas of California are designated as unclassifiable/attainment for NO_2. Thus, PSD applies statewide for NO_2.

In an effort to ensure that proposed new or modified sources comply with the federal standard, district and State representatives worked cooperatively through the California Air Pollution Control Officer's Association, or CAPCOA, to develop a common platform of information, tools, and stationary source modeling recommendations specific to the new 1-hour NO_2 standard. The protocols are described in a document titled *Modeling Compliance of the Federal 1-Hour NO_2 NAAQS,* released October 27, 2011. The modeling protocols are consistent with guidance provided by U.S. EPA.

Currently in California, PSD programs are (1) fully implemented by a district, (2) partially implemented by a district, or (3) wholly implemented by U.S. EPA. Five California districts have authority to fully implement their SIP-approved PSD program (refer to Table A-2). A sixth district, the San Joaquin Valley Air Pollution Control District, is awaiting final approval of their Rule 2410, which will give them authority to implement a PSD program. Table A-2 lists the districts with PSD authority, their qualifying rules, the PSD permitting emissions trigger levels, and the Federal Register approval citation. The SIP-approved PSD programs in these districts also apply to GHG emissions, in accordance with U.S. EPA's Tailoring Rule.

TABLE A-2
California Districts with SIP-Approved PSD NO_2 Rules

District	*Applicable District Rule*	*NO_2 Trigger Level for Major New Source PSD Permit*	*NO_2 Trigger Level for Major Modified Source PSD Permit*	*SIP Approval Federal Register Citation*
Mendocino County Air Quality Management District	Rule 220	220 pounds/day	220 pounds/day	50 FR 30942
Monterey Bay Unified Air Pollution Control District	Rule 207	150 pounds/day	150 pounds/day	65 FR 5433
North Coast Unified Air Quality Management District	Rule 220	40 tons/year	40 tons/year	50 FR 30941
Northern Sonoma County Air Pollution Control District	Rule 220	40 tons/year	40 tons/year	50 FR 30943
Sacramento Metropolitan Air Quality Management District	Rule 203	100 or 250 tons/year*	40 tons/year	76 FR 43183
San Joaquin Valley Unified Air Pollution Control District	Rule 2410	100 or 250 tons/year*	40 tons/year	Pending**

** The 100 tons/year trigger applies only to certain types of sources, including petroleum refineries, kraft pulp mills, and portland cement plants, whereas the 250 tons/year trigger applies to all other types of sources not specifically listed in 40 Code of Federal Regulations 52.21(b)(1)(i)(a).*
*** On June 16, 2011, the San Joaquin Valley district adopted Rule 2410, covering PSD permitting. The rule was submitted to U.S. EPA, and the proposed rule was published in the Federal Register on June 1, 2012 (77 FR 32493). ARB anticipates the rule will be final by November 1, 2012; however, this is dependent on when notice of the final rule is published in the Federal Register.*

In addition to the six districts listed in Table A-2, two California districts, the Bay Area Air Quality Management District and the South Coast Air Quality Management District, operate their PSD programs with partial delegation authority. Those portions of their PSD programs that have not been delegated are administered by U.S. EPA. The remaining districts in California have PSD programs for both NO_2 and GHG that are wholly administered by U.S. EPA. However, a number of these districts are at various stages in the rule development and submittal process for U.S. EPA approval. The current status of the district efforts are summarized in Table A-3.

TABLE A-3
Status of District PSD Rule Development and Approval

District	*District Rule Number*	*Status*
Antelope Valley Air Quality Management District	---	Rule under development
San Francisco Bay Area Air Quality Management District	2.2	Rule under development
Butte County Air Quality Management District	1107	Rule adopted by district; awaiting submittal to U.S. EPA
Eastern Kern County Air Pollution Control District	210.4	Submitted to U.S. EPA, but not yet proposed
Great Basin Unified Air Pollution Control District	221	Rule adopted by district; awaiting submittal to U.S. EPA
Imperial County Air Pollution Control District	904	Submitted to U.S. EPA, but not yet proposed
Mojave Desert Air Quality Management District	---	Rule under development
Placer County Air Pollution Control District	518	Submitted to U.S. EPA, but not yet proposed
San Diego County Air Pollution Control District	20.3	Rule adopted by district; awaiting submittal to U.S. EPA
San Luis Obispo County Air Pollution Control District	220	Rule adopted by district; awaiting submittal to U.S. EPA
Santa Barbara County Air Pollution Control District	803	Rule adopted by district; awaiting submittal to U.S. EPA
South Coast Air Quality Management District	Reg XVII	Delegation from U.S. EPA; SIP for GHG out for public comment
Ventura County Air Pollution Control District	26.1	Rule adopted by district; awaiting submittal to U.S. EPA
Yolo-Solano Air Quality Management District	3.24	Submitted to U.S. EPA, but not yet proposed

Interstate and International Transport Provisions *[§110(a)(2)(D)]*

This section prohibits the transport of NO_2 from one state to another, where the pollutant could contribute significantly to violations of the federal NO_2 standard, interfere with maintenance of the federal NO_2 standard, or contribute to reduced visibility.

California has longstanding programs to reduce NO_x emissions from all types of sources as part of the statewide strategy to attain the federal ozone and $PM_{2.5}$ standards. These programs also benefit NO_2, which is a component of NO_x. Currently, there are no NO_2 nonattainment areas in the nation. California's current network of community-wide monitors show NO_2 design values are below the level of the standard and thus, there is no potential for NO_2 transport impact. Although higher concentrations are expected near heavily travelled roadways, these concentrations fall off rather quickly with distance from the road. Therefore, whereas traffic-related emissions have a potential to cause localized violations, they pose no

potential for transport impact. In addition to nonattainment and maintenance issues, NO_2 can impact visibility. California's approved Regional Haze Plan will mitigate any potential visibility impacts.

Discussion

California's challenges with attaining the federal ozone and $PM_{2.5}$ standards have led to the development and implementation of one of the nation's most comprehensive emissions control strategies. The current statewide SIP strategy is heavily focused on reducing NO_x emissions. The reduction in NO_x emissions will directly benefit NO_2 air quality, as the majority of NO_2 is not directly emitted, but is formed in the atmosphere from NO_x emissions. Available monitoring data show that ambient NO_2 design values at all California sites are below the level of the federal standards. Current (2011) 1-hour NO_2 design values range from 5 ppb to 75 ppb, and annual NO_2 design values range from 1 ppb to 25 ppb, statewide. With continued implementation of the statewide SIP strategy, these design values are expected to be reduced even further.

In addition to the current monitoring network, the 2010 federal NO_2 standard requires states to establish a network of near-roadway monitors, designed to capture concentrations along the most heavily travelled roads. Because motor vehicles are the largest source of NO_x emissions, U.S. EPA expects that concentrations at the near-roadway sites will be higher than those measured by the current network. However, U.S. EPA also acknowledges that these near-roadway concentrations drop off quickly with distance from the roadway, so the impacts are localized. California's most heavily travelled roadways are located in the highly developed, urban core regions (for example, Los Angeles, Sacramento, San Francisco Bay Area, and San Joaquin Valley). These urban regions are not adjacent to any state boundary. As a result, traffic-related NO_x emissions in these areas will not contribute significantly to nonattainment, or interfere with maintenance of the NO_2 standard in another area. Should this become an issue in the future, California has a comprehensive mobile source program and will address the need for any additional mobile source control measures through the SIP process.

Finally, California submitted a SIP revision on November 16, 2007, addressing federal transport requirements for the 1997 federal ozone and $PM_{2.5}$ standards. Although this Transport SIP does not deal specifically with NO_2, it is relevant, because the NO_x emissions that are precursors to ozone and $PM_{2.5}$, also contribute to NO_2. U.S. EPA approved all elements of California's Transport SIP, except the PSD element. U.S. EPA approved the PSD element for those districts with a SIP-approved PSD program and disapproved it for those districts that lack a SIP-approved PSD program (76 FR 48002; refer to previous section titled "Programs for Enforcement, PSD, and NSR [§110(a)(2)(C)]"). Fully approved elements of the Transport SIP include findings that California emissions (1) do not contribute to ozone or $PM_{2.5}$ nonattainment in any other state (76 FR 34872), (2) do not interfere with maintenance of the ozone or $PM_{2.5}$ standards in any other state (PSD element, partially approved; 76 FR 48002), and (3) do not interfere with other states' measures to protect visibility (76 FR 34608). This last element comprises California's Regional Haze Plan. Copies of California's Transport SIP and Regional Haze Plan are available on ARB's website at http://www.arb.ca.gov/planning/sip/sip.htm.

Adequate Personnel, Funding, and Authority [§110(a)(2)(E)]

This section requires states and local districts to maintain adequate personnel, funding, and legal authority to implement their SIP and to ensure that a majority of their board members represent the public interest.

A majority of ARB and district budgets go toward meeting federal CAA mandates. Much of this funding comprises fees collected from regulated emission sources and dedicated to air pollution control activities. All ARB and district board members and program staff must comply with conflict of interest requirements established in State law.

Discussion

Each year, the California State Legislature approves ARB's funding and staff resources for carrying out CAA-related programs. Similarly, district budgets are approved each year by the districts' governing boards. The annual budget process provides a periodic update that enables ARB and the districts to adjust funding and personnel needs. Although it is not legally possible for ARB and the districts to provide specific commitments about future-year funding, the annual budget appropriations process undertaken by the California State Legislature enables ARB to present a request for resources required to meet the mandates of the CAA. These mandated programs have received State funding for more than three decades, and there is consistently strong public support in California for providing clean air. Therefore, it is reasonable to assume that implementation of CAA mandates will continue to be funded at an appropriate level.

Over the last several years, more than 80 percent of ARB's budget has gone toward meeting CAA mandates. Furthermore, the majority of ARB's budget comprises dedicated fees collected from regulated emission sources. These funds can only be used for air pollution control activities and are periodically adjusted to maintain the funding necessary for ARB programs. Districts receive funding from fees paid by regulated businesses, motor vehicle registration fees, State and federal grants, and other local revenue sources. Collectively, the 2009-2010 ARB and district budgets totaled $1.2 billion, with 3,422.4 full-time equivalent staff positions. If a district fails to meet its responsibilities, California Health and Safety Code section 39002 grants ARB the overall regulatory authority for districts' air pollution control programs and the power to implement these programs.

California Government Code Sections 87100 through 87105 and Sections 87300 through 87314 specify conflict of interest requirements for State and local government agencies. These requirements specifically prohibit all State and local public officials from participating in governmental decisions in which they have a financial interest. They also direct ARB and the districts to develop conflict of interest policies to meet these legal requirements. Each year, all ARB Board members and program staff must complete a conflict of interest statement (Form 700), which becomes a public document. Local government boards and program staff are subject to similar disclosure requirements.

Stationary Source Monitoring and Reporting [§110(a)(2)(F)]

> *This section calls for states to require owners and operators of stationary sources to install, maintain, and replace equipment for monitoring stationary source oxides of nitrogen emissions and to provide periodic reports on these emissions.*

NO_x is generally the emissions component measured to reflect NO_2. ARB maintains an emissions inventory for NO_x that goes beyond what U.S. EPA requires. In addition, State and district rules require stationary source owners and operators to determine the amount of NO_x emitted by their facilities.

Discussion

Districts are responsible for stationary source monitoring and reporting. However, ARB compiles stationary source emissions data from the districts and reports the information to U.S. EPA. The specific legal requirements are set forth in U.S. EPA's Air Emissions Reporting Requirements (AERR) rule (http://www.epa.gov/ttn/chief/aerr/final_published_aerr.pdf). Facilities emitting 2,500 tons per year (tpy) or more of NO_x are required to report their emissions annually, while facilities emitting from 100 tpy to 2,499 tpy of NO_x are required to report once every three years. In addition to these reporting requirements, many districts have rules establishing federally enforceable permitting requirements, which are often more stringent than the U.S. EPA AERR rule requirements. For example, South Coast's reporting requirements (http://www.aqmd.gov/titlev/WhatIsTV.html) have a lower threshold of 10 tpy NO_x for stationary sources located in the South Coast Air Basin.

ARB maintains a publicly-accessible emissions inventory, including NO_x emissions, with information for more than 14,000 stationary source facilities in California. The inventory is available on the ARB website at http://www.arb.ca.gov/ei/disclaim.htm. In addition to emissions information for stationary sources, the inventory includes emissions from other types of sources, including mobile sources (such as cars, trucks, and ocean going vessels), area-wide sources (such as residential fuel combustion and managed burning and disposal), and wildfires. The NO_x emissions inventory is relevant not only to the NO_2 standard, but also for ozone and particulate matter ($PM_{2.5}$ and PM_{10}), for which NO_x is a precursor.

Emissions estimates for stationary sources rely in part, on accurate emissions monitoring data. In addition, emissions monitoring data provide a basis for determining whether facilities meet performance standards established in State and district rules. California Health and Safety Code section 41511 authorizes ARB and districts to adopt rules and regulations requiring any emission source owner or operator to take reasonable steps to determine the amount of emissions released from the source. This would include emissions that contribute to a violation of any ambient air quality standard, including the federal NO_2 standard. In order to determine the amount of emissions coming from a particular source, districts have rules giving the Air Pollution Control Officer authority to request the installation, use, maintenance, and inspection of Continuous Emission Monitoring System (CEMS) equipment. Some district rules that trigger the CEMS requirement are tied to specific source categories and/or

emissions thresholds. These rules specify performance standards for the monitoring equipment, requirements for recordkeeping and reporting, and requirements for violation and equipment breakdown notification.

Contingency Plans for Emergency Episodes *[§110(a)(2)(G)]*

This section requires states to include a contingency plan for NO_2 in their SIP and to have adequate authority to implement the plan during emergency episodes in areas that meet a specified threshold concentration.

State law grants ARB and the districts authority comparable to U.S. EPA's authority to halt pollutant emissions that could cause a public health emergency or nuisance. NO_2 concentrations in California are well below the emergency threshold level specified in federal regulations, and all areas are designated as unclassifiable/attainment. Thus, no area is required to have a contingency plan for NO_2 emergency episodes.

Discussion

States are to provide for authority comparable to that in CAA Section 303, which gives U.S. EPA legal authority to halt the emission of air pollutants causing or contributing to injury of the public or welfare. U.S. EPA is further authorized to either bring a lawsuit in federal court or, if such civil action cannot assure prompt protection of public health or welfare, to issue such orders as may be necessary to protect public health, welfare, or the environment. The authority granted to the U.S. EPA Administrator is vested in ARB and the districts under California Health & Safety Code Section 42400, et seq. These sections of California law apply to a range of emission violations and impose penalties that are equivalent to or exceed federal penalties for comparable violations.

In addition to having the proper authority, states must provide for adequate contingency plans to be implemented during emergency episodes in urban areas. Under 40 Code of Federal Regulations (CFR) 51.150, NO_2 contingency plans are required in areas classified as Priority 1. The threshold concentration for a Priority 1 NO_2 area is 60 ppb, based on the annual average concentration. Areas with annual average concentrations below 60 ppb are classified as Priority 3 areas. Historically, the Metropolitan Los Angeles Intrastate Region (Los Angeles Region or Region) was designated as nonattainment for NO_2 and classified as a Priority 1 area. The rest of California was designated as unclassifiable/attainment and classified as Priority 3. Since U.S. EPA made the initial Priority classifications, NO_2 concentrations have decreased substantially. For example, annual average concentrations in the Los Angeles Region were up to 94 ppb in the early 1970s. Now, annual average concentrations range from 1 ppb to 25 ppb, statewide. These current levels are far below the 60 ppb Priority 1 threshold.

Under 40 CFR 51.152, Priority 3 areas do not need to develop contingency plans for emergency episodes. Furthermore, 40 CFR 51.152(d)(1) states that the Administrator may, at his discretion, exempt Priority 1 areas from the contingency plan requirements if those

areas are designated as attainment or unclassifiable for the federal standard under CAA Section 107. Such is the case for the Los Angeles Region with respect to NO_2 – all portions of the Region are currently designated as unclassifiable/attainment for the 2010 federal NO_2 standard. Thus, ARB requests that the Administrator either exempt the Los Angeles Region from the NO_2 contingency plan requirements or reclassify the Region as Priority 3, consistent with its current designation as unclassified/attainment for the federal NO_2 standard. With this action, no area of California is subject to the contingency plan/emergency episode requirements for NO_2. Should the designation status of any area change in future years, ARB commits to submit to U.S. EPA any necessary revisions, through the SIP process.

Future SIP Revisions [§110(a)(2)(H)]

> *This section requires states to revise their SIP when an air quality standard is promulgated or revised, new attainment methods become available, or U.S. EPA determines a SIP is either inadequate or does not meet revised CAA requirements.*

California has and will continue to submit revisions to its SIP, as mandated by U.S. EPA.

Discussion

Clean air is a priority in California. To help meet this goal, California is submitting this Infrastructure SIP for NO_2, in compliance with the revised federal NO_2 standard. All areas of California are currently designated as unclassifiable/attainment for NO_2. Should any area be designated as nonattainment in the future, ARB will work with the local district to develop an approvable SIP for the nonattainment area and will submit that nonattainment SIP to U.S. EPA by the statutory deadline. ARB maintains a current collection of all SIP documents on its website at http://www.arb.ca.gov/planning/sip/sip.htm.

Consultation with Government Officials, Public Notification, PSD, and Visibility Protection [§110(a)(2)(J)]

> *This section requires states to meet requirements of the CAA relating to consultation and public notification and to implement PSD and visibility protection programs for NO_2.*

ARB and air districts comply with all federal regulatory requirements, including requirements for consultation, notification, comment, and adoption. Furthermore, ARB has information available on its website about ambient NO_2 concentrations and the health impacts of NO_2 in the ambient air. As described earlier, in response to CAA Section 110(a)(2)(C), PSD requirements are addressed at the district level. Visibility issues are addressed in California's approved Regional Haze SIP.

Discussion

CAA Section 121 requires states to provide a satisfactory process for consulting with general purpose local governments, designated organizations of elected local government officials, and any affected federal land manager in carrying out CAA requirements. California Health and Safety Code section 41650, et seq., requires ARB to conduct public hearings and to solicit testimony from districts, air quality planning agencies, and the public when adopting nonattainment plans for inclusion in the SIP. Additionally, the California Administrative Procedures Act, Government Code Section 11340, et seq., requires notification and provision of comment opportunities to all parties affected by proposed regulations. Similarly, Health and Safety Code section 40725 requires districts to conduct public hearings when adopting, amending or repealing any rule.

CAA Section 127 requires states to provide measures that will be effective in notifying the public on a regular basis of instances or areas in which a federal standard was exceeded during the preceding calendar year. This requirement is similar to California Health and Safety Code section 39607, which requires ARB to implement a program for securing air quality data in each air basin and to report these data to the public. To fulfill this requirement, ARB maintains air quality data on its website at http://www.arb.ca.gov/aqmis2/aqdselect.php. U.S. EPA developed the Air Quality Index (AQI) as a means to inform the public about how clean or polluted the air is and what associated health effects might be of concern. In promulgating the 2010 NO_2 standard, U.S. EPA made conforming changes to the AQI to reflect the new 1-hour standard. ARB and districts use measured air quality to calculate daily AQI values and provide the public with information about local NO_2 levels.

CAA Section 127 also requires states to advise the public about the health hazards associated with air pollution and enhance public awareness of measures to prevent violation of a federal standard. In compliance with this requirement, ARB maintains webpages detailing relevant health information (http://www.arb.ca.gov/research/health/health.htm) and ways of reducing air pollution (http://www.arb.ca.gov/html/cando.htm).

With respect to PSD requirements, several districts in California administer fully SIP-approved or partially delegated PSD programs that comply with the requirements for NO_2. PSD programs in the remaining districts are administered by U.S. EPA through a federal stationary source permitting program under enabling authority in 40 CFR Part 52.21. However, a number of these districts are currently in the process of developing or seeking U.S. EPA approval of their PSD programs. The status of the PSD program in California's districts is described in more detail above, under the heading "Programs for Enforcement, PSD, and NSR [§110(a)(2)(C)]."

With respect to visibility protection, California has in place, a Regional Haze Plan that U.S. EPA approved on June 14, 2011. Although the Regional Haze Plan does not deal specifically with NO_x as it relates to the federal NO_2 standard, it addresses NO_x, as a component of particle pollution. Thus, provisions of the State's Regional Haze Plan will reduce the impact of NO_2 on visibility, with the long-term goal of improving visibility in Class 1 areas. California's Regional Haze Plan is available on the ARB website at http://www.arb.ca.gov/planning/reghaze/reghaze.htm.

Air Quality Modeling/Data ***[§110(a)(2)(K)]***

This section requires states to use air quality models to predict the effect of NO_x emissions on ambient concentrations and to submit the modeling data to U.S. EPA when requested.

ARB is well versed in the use of air quality models to predict the impact of emissions on air quality. ARB modeling complies with U.S. EPA guidance, and ARB works closely with districts that conduct their own modeling to ensure similar compliance. Modeling results are available on request.

Discussion

The major NO_x emission sources are mobile sources and stationary sources. ARB has an air quality modeling group with extensive experience related to modeling all types of sources for compliance with the federal standards. Furthermore, ARB's air quality modeling work complies with U.S. EPA's guidance on the use of models. In addition, ARB documents information used when conducting modeling or evaluating the performance of air quality models used for this purpose. Finally, ARB consults and works closely with districts that conduct their own air quality modeling to ensure compatibility with federal guidelines.

In an effort to ensure that proposed new or modified sources comply with the federal NO_2 standard, district and State representatives worked cooperatively through CAPCOA to develop a common platform of information, tools, and stationary source modeling recommendations specific to the new 1-hour NO_2 standard. The protocols are described in a document titled *Modeling Compliance of the Federal 1-Hour NO_2 NAAQS,* released October 27, 2011. The modeling protocols are consistent with guidance provided by U.S. EPA.

ARB provides air quality modeling software and documentation with links to databases and search engines at http://www.arb.ca.gov/html/soft.htm#modeling. This page includes a link to both State-approved and U.S. EPA-approved models and documentation.

Permitting Fees ***[§110(a)(2)(L)]***

This section requires states to assess NO_2 stationary source owners or operators fees to cover the cost of reviewing and acting on a permit application. If a permit is granted, states must also assess fees to cover the cost of implementing and enforcing the permit. Finally, owners or operators must comply with the fee provisions of Title V Sections 501 through 507 of the CAA and pay such fees to the permitting authority.

Districts are responsible for issuing stationary source permits, and each district has rules requiring additional fees subject to Title V requirements.

Discussion

As described in the previous section on "Programs for Enforcement, PSD, and NSR [§110(a)(2)(C)]," responsibility for issuing stationary source permits is vested with the districts, and each district in California has adopted rules requiring an additional fee for facilities subject to Title V requirements. Information on district-issued permits is available on the ARB website at http://www.arb.ca.gov/permits/airdisop.htm and http://www.arb.ca.gov/permits/permits.htm. In addition, ARB maintains various email notification lists that provide subscribers with current, on-going email notification about updates and changes to programs related to permitting. Information about subscribing to these email notification lists is also available on the ARB website at http://www.arb.ca.gov/permits/permits.htm.

Consultation/Participation by Affected Local Entities [§110(a)(2)(M)]

This section requires states to consult with and allow political subdivisions affected by the NO_2 Infrastructure SIP to participate in the development process.

ARB coordinates on a regular basis with the State's 35 districts. State law requires ARB to conduct a public hearing and solicit input from affected agencies and the public when developing any SIP document.

Discussion

California is divided into 35 districts, comprising county or regional local government authorities with responsibility for controlling stationary source emissions. A map of district boundaries is available on ARB's website at http://www.arb.ca.gov/capcoa/dismap.htm. Links to districts' websites are available at http://www.arb.ca.gov/capcoa/roster.htm.

ARB consults and provides liaison with all districts and provides for frequent and regular communication and consultation with management and staff of these districts. Because district boards are composed of local elected officials, this framework provides for regular consultation with and participation by local government entities (cities and counties) affected by the SIP. Furthermore, California Health and Safety Code section 41650, et seq., requires ARB to conduct a public hearing and to solicit testimony from districts, air quality planning agencies, and the public when adopting SIP-related documents. The districts have a similar process for soliciting participation and comment with respect to proposed regulatory actions.